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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/849,522	05/20/2004	Joo-ho Kim	1793.1266	5579
49455 7590 01/09/2008 STEIN, MCEWEN & BUI, LLP 1400 EYE STREET, NW SUITE 300 WASHINGTON, DC 20005				
			EXAMINER LAM, CATHY FONG FONG	
			ART UNIT 1794	PAPER NUMBER
			MAIL DATE 01/09/2008	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/849,522	KIM ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Cathy Lam	1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 31 October 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1,2,11-16 and 28-31 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,11-14,16 and 28-31 is/are rejected.
- 7) ☒ Claim(s) 15 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on October 31, 2007 has been entered.

In view of the amendment and remarks filed on October 31, 2007, the pending claims continue to be unpatentable as following:

***Claim Rejections - 35 USC § 112***

2. Claim 1 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Applicant is required to point out to the examiner where the newly added limitation derived from.

***Claim Rejections - 35 USC § 102/103***

3. Claims 1, 2, 11-12 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Tominaga et al (US 5252370).

Regarding claims 1, 2, 11 and 12, Tominaga discloses a polycarbonate substrate with a silver oxide layer (noble metal oxide) formed directly on the substrate. Tominaga

discloses a dielectric layer formed on the metal oxide layer and recesses (a pit pattern) formed in the silver oxide layer, which releases O<sub>2</sub> when heated by a laser, thereby changing volume (column 2 lines 63-65, column 4 line 10, column 6 lines 39-51).

Tominaga although does not show the outermost layer of the recording thin film has a pit pattern, but it does not construe that the outermost layer is a flat layer. The examiner is taking the position that the Figures in Tominaga is not drawn to scale. Since applicant is using an opening language (i.e. A multi-layer structure comprising), there may be additional layer(s) over the pit pattern that would make the structure similar to Tominaga's.

Claim 1 is a product by process claim wherein the patentability of the product does not depend on its method of production. "If the product in the product by process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process unless it can be shown that the product produced by the process is in some manner measurably distinct from the product produced by another process." See *MPEP* 2113. As such, the process limitations within claim 1 does not provide patentable distinction over the prior art.

***Claim Rejections - 35 USC § 102***

4. Claims 1-2, 11-14, 16, 28-29 and 31 are rejected under 35 U.S.C. 102(b) as being anticipated by Shiratori et al (US 5648134).

Shiratori teaches a thermal recording medium comprised of a substrate (1), a dielectric layer (2), a magnetic layer (3) and a dielectric layer (4); all in the named order.

The substrate (1) is a transparent substrate which may be a glass of a polycarbonate layer (col 3 L 44). The magnetic layer is an amorphous alloy layer which comprises at least one transitional metal such as Fe, Co and Ni, etc. From Shiratori's disclosure, the magnetic layer may be a TbFeCo layer or a FeSbTe layer (see Example 1 and Example 3). The magnetic layer in example 1 is 80 nm thick (col 4 L 32).

In example 3, the dielectric layers that covers the magnetic layer, are both ZnS-SiO<sub>2</sub> material (col 6 L 54-55).

The recording medium is irradiated by a DC laser to form a band-like portions (or pit pattern) with a width of about 0.6  $\mu$ m between the grooves on the surface (see Examples 2 & 3).

***Claim Rejections - 35 USC § 103***

5. Claims 13, 16, 28-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 5,252,370 to Tominaga et al in view of U.S. Patent 4,504,548 to Esho et al.

Regarding claims 13, 16, 28-31, Tominaga discloses all of the limitations of claims above and discloses a silver oxide layer 800 angstroms (or 80nm) thick (column 7 lines 47-48). Tominaga discloses a dielectric layer formed on the metal oxide layer and further discloses recesses (a pit pattern) formed in the silver oxide recording layer, which releases O<sub>2</sub> when heated by a laser, thereby changing volume (column 6 lines 39-51). Tominaga discloses a dielectric layer on the silver oxide recording layer for helping to heat the silver oxide layer but does not disclose a dielectric layer between the silver oxide and the substrate (column 6 lines 59-62).

Esho discloses a dielectric layer below a recording layer for the purpose of reflecting laser wavelengths, which would help to heat the recording layer. Therefore, it would have been obvious to a person having ordinary skill in the art at the time of the invention to use the dielectric layer of Esho as a functional equivalent of the claimed dielectric layer between the substrate and recording layer of Tominaga.

***Allowable Subject Matter***

6. Claim 15 is objected to as being dependent upon a rejected base claim, but would be allowable if incorporate into the base claim.

***Response to Arguments***

Applicant's arguments filed on October 31, 2007 have been fully considered but they are not persuasive.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cathy Lam whose telephone number is (571) 272-1538. The examiner can normally be reached on 9am-6pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rena Dye can be reached on (571) 272-3186. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Cathy Lam  
Primary Examiner  
Art Unit 1794

cfl  
January 04, 2008